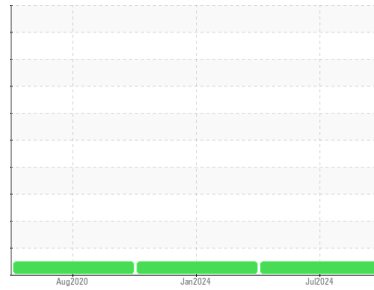




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
STERLING 728001 (S/N 2FZHCHBS58AZ67231)
 Component
Diesel Engine
 Fluid
SHELL ROTELLA T 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

Fluid Condition

The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			GFL0127645	GFL0109549	GFL0009075
Sample Date	Client Info			12 Jul 2024	31 Jan 2024	13 Aug 2020
Machine Age	hrs	Client Info		16915	16697	14962
Oil Age	hrs	Client Info		600	600	0
Oil Changed	Client Info			Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>5		<1.0	<1.0	<1.0
Water	WC Method	>0.2		NEG	NEG	NEG
Glycol	WC Method			NEG	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>100	10	11	11
Chromium	ppm	ASTM D5185(m)	>20	<1	<1	<1
Nickel	ppm	ASTM D5185(m)	>4	<1	<1	<1
Titanium	ppm	ASTM D5185(m)		0	0	<1
Silver	ppm	ASTM D5185(m)	>3	0	0	<1
Aluminum	ppm	ASTM D5185(m)	>20	1	2	1
Lead	ppm	ASTM D5185(m)	>40	<1	3	3
Copper	ppm	ASTM D5185(m)	>330	1	3	26
Tin	ppm	ASTM D5185(m)	>15	0	<1	<1
Antimony	ppm	ASTM D5185(m)		0	0	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		0	0	0

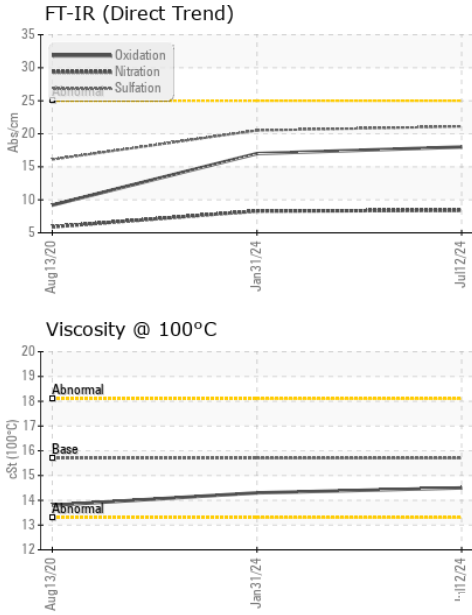
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	35	96	4	5
Barium	ppm	ASTM D5185(m)	0	0	0	1
Molybdenum	ppm	ASTM D5185(m)	0	18	60	3
Manganese	ppm	ASTM D5185(m)	0	0	0	<1
Magnesium	ppm	ASTM D5185(m)	10	285	982	36
Calcium	ppm	ASTM D5185(m)	2340	1870	1120	2242
Phosphorus	ppm	ASTM D5185(m)	1110	1010	1017	902
Zinc	ppm	ASTM D5185(m)	1210	1187	1206	1020
Sulfur	ppm	ASTM D5185(m)	3890	2825	2650	3116
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	2	5	25
Sodium	ppm	ASTM D5185(m)		3	1	7
Potassium	ppm	ASTM D5185(m)	>20	5	<1	2

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	0	0	0
Nitration	Abs/cm	ASTM D7624*	>20	8.4	8.3	5.9
Sulfation	Abs/.1mm	ASTM D7415*	>30	21.1	20.5	16.1



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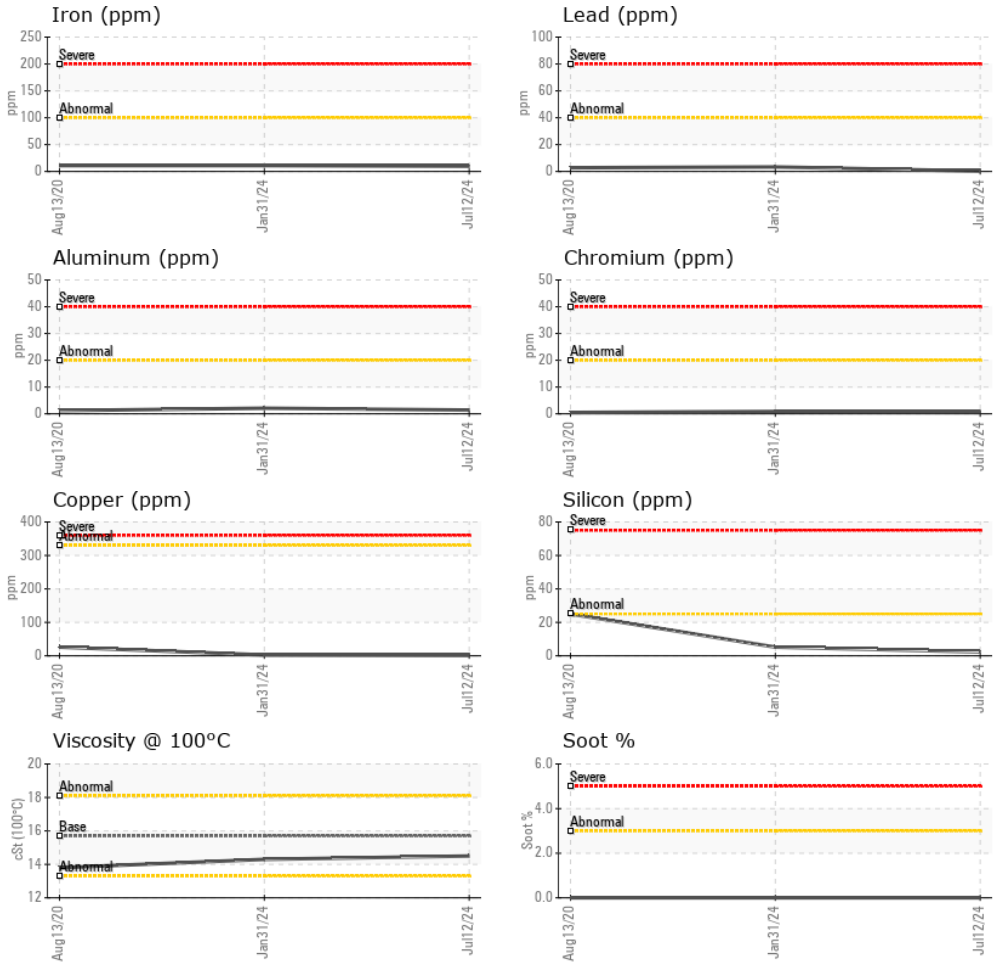


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	18.0	17.0	9.2

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	VLITE	---	---
Yellow Metal	scalar	Visual*	NONE	NONE	---	---
Precipitate	scalar	Visual*	NONE	NONE	---	---
Silt	scalar	Visual*	NONE	NONE	---	---
Debris	scalar	Visual*	NONE	NONE	---	---
Sand/Dirt	scalar	Visual*	NONE	NONE	---	---
Appearance	scalar	Visual*	NORML	NORML	---	---
Odor	scalar	Visual*	NORML	NORML	NORML	---
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.7	14.5	14.3	13.8

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **GFL Environmental Inc. - 536 - Fort frances**
Sample No. : GFL0127645 **Received** : 18 Jul 2024 **Fire #174 Hwy 11/71**
Lab Number : **02648595** **Tested** : 18 Jul 2024 **Fort Frances, ON**
Unique Number : 5814147 **Diagnosed** : 18 Jul 2024 - Kevin Marson **CA P9A 3M2**
Test Package : MOB 1 (Additional Tests: Visual) **Contact: Jodi Holden**
Tested at external lab. **jholden@gflenv.com**
Validity of results and interpretation are based on the sample and information as supplied. **T: (807)274-6255**
F:

To discuss this sample report, contact Customer Service at 1-800-268-2131.

Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.

Validity of results and interpretation are based on the sample and information as supplied.